

FORM PTO-1390
(REV. 9-2001)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

5095.001

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO. (If known, see 37 CFR 1.5

To Be Assigned

107030408

INTERNATIONAL APPLICATION NO.

PCT/AU00/00781

INTERNATIONAL FILING DATE

June 30, 2000

PRIORITY DATE CLAIMED

July 7, 1999

TITLE OF INVENTION

METHOD OF FORMING A TUBE

APPLICANT(S) FOR DO/EO/US

WEEKS PEACOCK QUALITY HOMES PTY LTD ET AL.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☒ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
14. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☐ Other items or information:

FORM PTO-1390 (REV 9-2001) page 2 of 2

APPLICANT(S): Weeks Peacock : EXAMINER: To Be Assigned
Quality Homes Pty Ltd.
SERIAL NO.: To Be Assigned : GROUP ART UNIT: To Be Assigned
FILED: Herewith : ATTY. DOCKET NO.: 5095.001
FOR: METHOD OF :
FORMING A TUBE :
:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

AMENDMENTS

Please delete claims 11-14.

REMARKS

Claims 1-10 are pending.

CONCLUSION

Claims 1-10 are fully supported by the originally filed specification. Applicant thus respectfully requests that the instant amendment be entered.

If any outstanding issues remain, or if the Examiner has any suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number below.

The Examiner's attention to this matter is greatly appreciated.

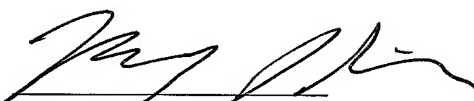
Respectfully submitted,

Dated: January 3, 2002

DREIER & BARITZ LLP

Mailing Address:
DREIER & BARITZ LLP
499 Park Avenue
New York, New York 10022
(212) 328-6100
Facsimile: (212) 328-6101

By:


Barry J. Schindler
Reg. No. 32,938

"METHOD OF FORMING A TUBE"TECHNICAL FIELD

5 This invention relates to a method of forming a tube.

BACKGROUND ART

10 It is known to form a tube by taking an elongate sheet of material having a pair of spaced, parallel lateral edges and bending the material about a longitudinal axis so that the lateral edges abut or overlap so as to form a tube. Thereafter, the abutting or overlapping lateral edges are fixed together, usually by welding, riveting or the like.

15 The present invention relates to a novel method of fixing together overlapping lateral edges during formation of a tube, and to a tube thus formed.

DISCLOSURE OF INVENTION

20 According to one aspect the invention resides in a method of forming a tube from an elongate sheet of material having a pair of spaced and parallel edges, the method including:-

forming the elongate sheet into a tube such that the lateral edges of the sheet overlap to define an overlap region having an inner overlap portion and an outer overlap portion;

25 punching the inner overlap portion and outer overlap portion to define a tab in each, said tabs being aligned such that the tab defined in the inner portion is directly underneath the tab defined in the outer portion; and

folding the tabs whereby the inner overlap portion and outer overlap portion are fixed together.

30 According to another aspect, the invention resides in a tube formed according to the method defined above.

According to another aspect the invention resides in a tube manufactured from an elongate sheet of material formed into a tube and having its lateral edges

overlapping to define an inner overlapping portion and an outer overlapping portion, a tab defined in the inner overlapping portion, a tab defined in the outer overlapping portion, said tabs being aligned such that the tab defined in the inner overlapping portion lies directly beneath the tab defined in the outer overlapping portion, said tabs being folded such that the inner overlapping portion and outer overlapping portion are fixed together.

According to another aspect the invention resides in a tube or the like including:-

a longitudinally extending seam formed by overlapping opposed edges of sheet material forming the tube; and

fastening means for fastening together the overlapped edges, the fastening means being integrally formed by material punched from the overlapped edges.

According to another aspect the invention resides in a method of forming a tube or the like, the method including:-

bending sheet material about a longitudinal axis to overlap opposed edges of the material;

integrally fastening the overlapped edges by punching material from the overlapped edges.

BRIEF DESCRIPTION OF DRAWINGS

Reference will now be made to the accompanying Figures which illustrate preferred embodiment(s) of the invention and in which:-

FIG 1 is front elevation of a tube according to the invention;

FIG 2 is an underside plan of the tube of FIG 1;

FIG 3 is a side elevation with cutaway detail of the tube of FIG 1.

BEST MODE

With reference to FIG 1, there is shown a tube 10 formed from a sheet of material bent about a longitudinal axis such that the opposed lateral edges of the sheet of material overlap to define an overlapping region 12 whereat an outer overlapping portion 14 overlies an inner overlapping portion 16.

U or V-shaped tabs 18 are punched from the inner and outer overlapping portions and thereafter bent inwardly together to the position illustrated by 18' in FIG 3 thereby mechanically fixing the inner and outer overlapping portions together.

5 It will be understood that both the outer overlapping portion and inner overlapping portion are punched such that the tabs defined in the inner and outer portions abut each other and are bent in unison to the final interlocking position shown at 18' in FIG 3.

As shown, the punching and bending operation is repeated at regular
10 centres along the longitudinal length of the tube such that the overlapping seam is
stabilised along its entire length.

It will, of course, be realised that the above has been given by way of illustrative example of the invention. Any variations, modifications, or omissions, as would be apparent to persons skilled in the art, are deemed to fall within the broad scope of this invention.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A method of forming a tube from an elongate sheet of material having a pair of spaced and parallel edges, the method including:-

5 forming the elongate sheet into a tube such that the lateral edges of the sheet overlap to define an overlap region having an inner overlap portion and an outer overlap portion;

punching the inner overlap portion and outer overlap portion to define a tab in each, said tabs being aligned such that the tab defined in the inner portion is directly underneath the tab defined in the outer portion; and

10 folding the tabs whereby the inner overlap portion and outer overlap portion are fixed together.

2. A method as claimed in claim 1, wherein the tabs are folded inwardly.

15

3. A method as claimed in claim 1, wherein the tabs are substantially V or U shaped.

4. A method as claimed in claim 1, wherein the tabs are simultaneously punched.

20

5. A method as claimed in claim 1, wherein complementary pairs of tabs are provided along the length of the tube at regular centres.

6. A tube formed according to the method defined in any one of claims 1 to 5.

25

7. A tube manufactured from an elongate sheet of material formed into a tube and having its lateral edges overlapping to define an inner overlapping portion and an outer overlapping portion, a tab defined in the inner overlapping portion, a tab defined in the outer overlapping portion, said tabs being aligned such that the tab defined in the inner overlapping portion lies directly beneath the tab defined in the outer overlapping portion, said tabs being folded such that the inner overlapping portion and outer overlapping portion are fixed together.

30

8. A tube as claimed in claim 7, wherein said tabs are folded inwardly.

9. A tube as claimed in claim 7, wherein said tabs are substantially V or U shaped.

5

10. A tube as claimed in claim 7, wherein complementary pairs of tabs are provided at regular centres along the length of the tube.

11. A tube or the like including:-

10 a longitudinally extending seam formed by overlapping opposed edges of sheet material forming the tube; and

fastening means for fastening together the overlapped edges, the fastening means being integrally formed by material punched from the overlapped edges.

15 12. A tube as claimed in claim 11, wherein the fastening means are tabs bent to abut the tube surface.

13. A method of forming a tube or the like, the method including:-

20 bending sheet material about a longitudinal axis to overlap opposed edges of the material;

integrally fastening the overlapped edges by punching material from the overlapped edges.

14. A method as claimed in claim 13, and further including:-

25 bending the punched material to abut the tube surface.

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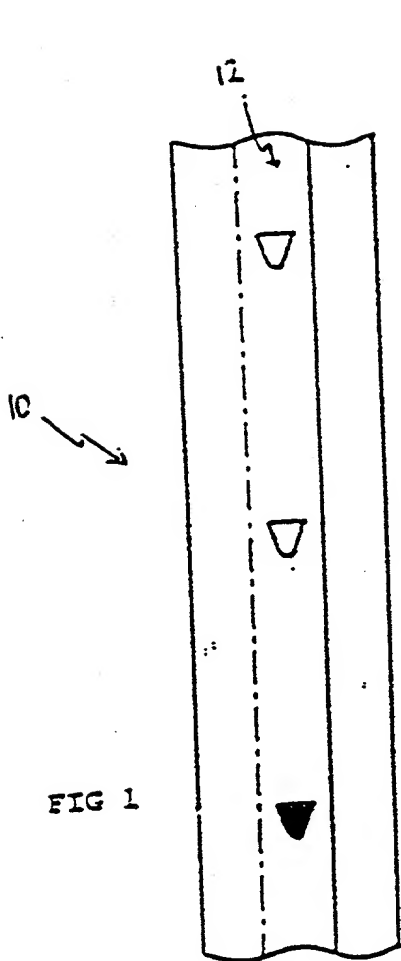


FIG 1

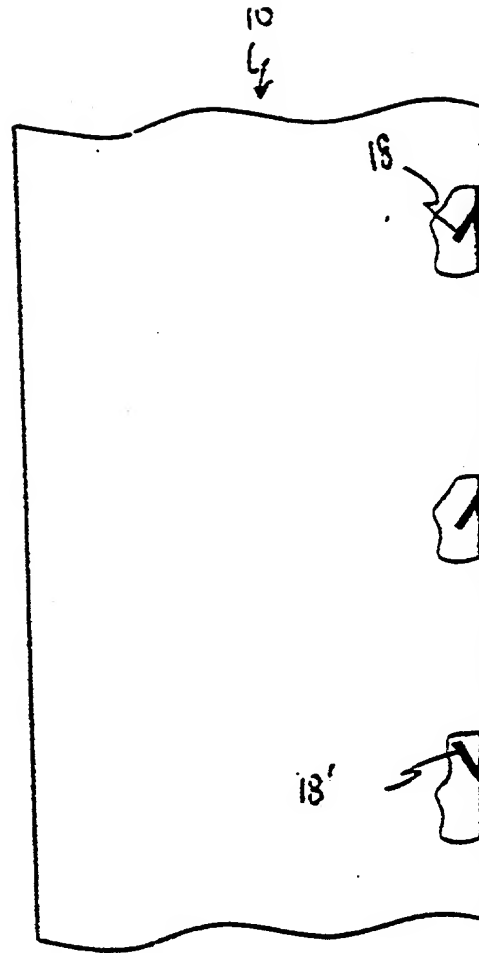


FIG 3

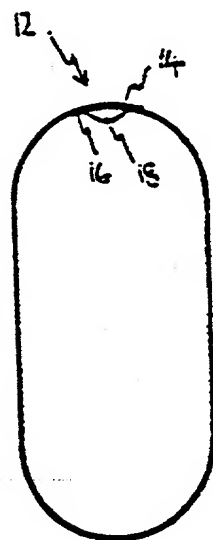
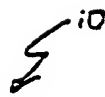


FIG 2



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NAME OF SOLE OR FIRST INVENTOR: ☐ A petition has been filed for this unsigned inventorGiven Name
(first and middle (if any)) KEVIN, WILLIAMFamily Name
or Surname WEEKSInventor's
Signature 

Date

Residence: City GlandoreState AUXCountry AUCitizenship AU

Mailing Address

712-714 South RoadCity Glandore

State

ZIP 5037Country AUNAME OF SECOND INVENTOR: ☐ A petition has been filed for this unsigned inventorGiven Name
(first and middle (if any))Family Name
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☐ Additional inventor are being named on the _____ supplement(s) Additional inventor(s) sheet(s) PTO/S&O 2A attached hereto.